

71480 U.S. PTO



01/28/97

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Attorney Docket No. 205.7
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Choung Kim

Serial No.: 08/735,385

Group No.: unassigned

Filed: October 21, 1996

Examiner: unassigned

For: Piperidine Compounds

Assistant Commissioner for Patents

Washington, D.C. 20231

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT WITHIN
THREE MONTHS OF FILING OR BEFORE MAILING OF
FIRST OFFICE ACTION (37 CFR 1.97 (b))**

CERTIFICATE OF MAILING

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IDENTIFICATION OF TIME OF FILING THE ACCOMPANYING
INFORMATION DISCLOSURE STATEMENT

The information disclosure statement submitted herewith is being filed within three months of the filing date of the application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. 37 CFR 1.97 (b).

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INFORMATION DISCLOSURE STATEMENT (modified)

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List of Sections Forming Part of This Information Disclosure Statement.

The following sections are being submitted for this Information Disclosure Statement:

1. ☒ Preliminary Statements
2. ☒ FORM PTO - 1449 (Modified)
3. ☒ Identification of Prior Application in Which Listed Information Was Already Cited.

Section 1. Preliminary statements

Applicants submit herewith patents, publications or other information of which they are aware, which they believe may be material to the examination of this application and in respect of which there may be a duty to disclose. To the extent that this submission includes an International Search Report, such Report is submitted to facilitate the Examiner's analysis of the references and not out of any belief that the International Searching Authority's construction of the relevance of the references has any bearing under United States Law.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 CFR 1.97 (g)), an admission that the information cited is, or is considered to be, material to patentability or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.



01/28/97

FORM PTO-1449

**U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE**
**INFORMATION DISCLOSURE STATEMENT
BY APPLICANT**

(37 CFR 1.98(b))

ATTY DOCKET NO. : 205.7 SERIAL NO. : 08/735,385

APPLICANT : Kim, Choung

FILING DATE : 10/21/96

GROUP ART UNIT :

U.S. PATENT DOCUMENTS

EXAMR'S INITIALS	PATENT NO.	ISSUE DATE	PATENTEE	CLASS/ SUBCLASS	FILING DATE
	4,968,788	11/6/90	Farquhar	536/27	1/23/89
	5,206,400	4/27/93	Witiak et al.		7/7/86
	5,292,938	3/8/94	Mease et al.		4/13/92
	5,360,817	11/1/94	von Izstein et al.	514/459	4/24/91
	5,512,596	4/30/96	Kim et al.	514/568	9/2/94
	5,536,734	7/16/96	Mueller et al.	514/336	6/21/94
	5,556,963	9/17/96	Liav et al.		8/5/94

FOREIGN PATENT DOCUMENTS

EXAMR'S INITIALS	PATENT NO.	PUBLICATION DATE	COUNTRY	CLASS/ SUBCLASS	TRANSLATION YES/NO
	0 534 216 A1	9/5/92	EP		No
	0 539 204 A1	10/22/92	EUROPE		
	WO 91/16320	10/31/91	PCT		
	WO 92/06691	4/30/92	PCT		
	WO 93/12105	6/24/93	PCT		
	WO 93/16049*	8/19/93	PCT		No
	WO 94/07885	4/14/94	PCT		
	WO 94/07886	4/14/94	PCT		
	WO 94/28956	12/22/94	PCT		
	WO 94/29476	12/22/94	PCT		
	WO 95/00503	1/5/95	PCT		
	WO 95/16680	6/22/95	PCT		
	WO 95/18800	7/13/95	PCT		
	WO 95/20583	8/3/95	PCT		
	WO 95/32712	12/7/95	PCT		
	WO 96/04265	2/15/96	PCT		
	WO 96/30329	10/3/96	PCT		
	WO 96/36628	11/21/96	PCT		
	WO 96/39838	12/19/96	PCT		

*English equivalent unavailable--Derwent abstract provided.

EXAMINER

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EXAMINER: Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



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FORM PTO-1449 U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (37 CFR 1.98(b))	ATTY DOCKET NO. : 205.7 SERIAL NO. : 08/735,385	
	APPLICANT : Kim, Choung	
	FILING DATE : 10/21/96	GROUP ART UNIT :

OTHER DOCUMENTS

EXAMR'S INITIALS	ARTICLE
	Barnford et al., "Synthesis of 6-, 7- and 8-carbon sugar analogues of potent anti-influenza 2,3-didehydro-2,3-dideoxy-N-acetylneuraminic acid derivatives," J CHEM SOC PERKIN TRANS I pp. 1181-1187 (1995)
	Barnford, Mark J., "Neuraminidase Inhibitors as Potential Anti-Influenza Drugs," J ENZYME INHIBITION 10:1-16 (1995)
	Berger, Alfred, "Relation of Chemical Structure and Biological Activity," MEDICINAL CHEMISTRY Third edition, part 1, pp. 73 - 75 (1979)
	Carless et al., "Synthesis of Pseudo-alpha-L-fucopyranose from Toluene," J CHEM SOC (C) pp. 2447-2448 (1995)
	Chandler et al., "Approaches to carbocyclic analogues of the potent neuraminidase inhibitor 4-guanidino-Neu5Ac2en. X-Ray molecular structure of N-[(1S,2S,6R)-2-azido-6-benzyloxymethyl-4-formylcyclohex-3-enyl]acetamide," J CHEM SOC PERKIN TRANS I pp. 1189-1197 (1995)
	Chandler et al., "Synthesis of the potent influenza neuraminidase inhibitor 4-guanidino Neu5Ac2en. X-Ray molecular structure of 5-acetamido-4-amino-2,6-anhydro-3,4,5-trideoxy-D-erythro-L-gluco-nononic acid," J CHEM SOC PERKIN TRANS I pp. 1173-1180 (1995)
	Ciccotosto et al., "Synthesis of Methyl 5-Acetamido-3,4,5-trideoxy-4-Guanidinyl-D-glycero-D-galacto-2-nonulopyranosidonic acid (4-deoxy-4-guanidino-Neu5Acalpha2Me)," TET LETT 36(30):5405-5408 (1995)
	Colman, P.M., "Influenza virus neuraminidase: Structure, antibodies, and inhibitors," PROTEIN SCIENCE 3:1687-1696 (1994)
	Dernick, Rudolf, "Sterical Requirements for Inhibitors of Viral Neuraminidases," CHEM AB 96:256 (1982)
	Douglas, R. Gordon, Jr., "Prophylaxis and Treatment of Influenza," N ENGL J MED 322(7):443-450 (2/15/90)
	Ganem, Bruce, "Tetrahedron Report Number 59. From Glucose to Aromatics: Recent Developments in Natural Products of the Shikimic Acid Pathway," TETRAHEDRON 34:3353-3383 (1978)
	Grewe et al, "Abbau der Chinasäure nach Hunsdiecker," CHEM BER 98:104-110 (1965)
	Grewe et al, "Darstellung und Eigenschaften des Chinaaldehyds," LIEBIGS ANN CHEM 658:113-119 (1962)
	Grewe et al, "Die Totalsynthese der Chinasäure," CHEM BER 87:793-802 (1954)
	Grewe et al, "Die Überführung der Shikimisäure in Chinasäure," CHEM BER 86:928-938 (1953)
	Grewe et al, "Eine einfache Synthese der Shikimisäure," CHEM BER 100:2546-2553 (1967)
	Grewe et al, "Eine neue Synthese der Shikimisäure," CHEM BER 97:443-448 (1964)
	Grewe et al, "Synthese der Homochinasäure und des beta-Chino-athylamins," LIEBIGS ANN CHEM 575:1-17 (1952)
	Grewe et al, "Überführung der Chinasäure in ungesättigte Verbindungen vom Typ der Shikimisäure," ANGEW CHEM INT ED 69:61 (1957)

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	Hanessian et al., "Anomeric Deoxygenation of 2-Ulosonic Acids Using Sml2: Rapid Access to 2-Deoxy-KDO and 2-Deoxy-NANA," SYNLETT pp. 863-864 (Oct 1994)
	Hayden et al., "Safety and Efficacy of the Neuraminidase Inhibitor GG167 in Experimental Human Influenza," JAMA 275(4):295-299 (Jan 1996)
	Janakiraman et al., "Structure of Influenza Virus Neuraminidase B/Lee/40 Complexed with Sialic Acid and a Dehydro Analog at 1.8-Angstrom Resolution: Implications for the Catalytic Mechanism," BIOCHEM 33:8172-8179 (1994)
	Kiefel et al., "Synthesis and Biological Evaluation of N-Acetylneuraminic Acid-Based Rotavirus Inhibitors," J MED CHEM 39:1314-1320 (1996)
	Kong et al., "The First Synthesis of a C-7 Nitrogen-containing Sialic Acid Analogue, 5-Acetamido-7-azido-3,5,7-trideoxy-D-glycero-D-galacto-2-nonulopyranosonic acid (7-azido-7-deoxy-Neu5Ac)," TET LETT 36(6):957-960 (1995)
	Kudo et al., "Synthesis of the Potent Inhibitors of Neuraminidase, N-(1,2-Dihydroxypropyl) Derivatives of Siastatin B and its 4-Deoxy Analogs," J ANTIBIOT 46(2):300-309 (Feb. 1993)
	McCauley et al., "4-Guanidino-Neu5Ac2en fails to protect chickens from infection with highly pathogenic avian influenza virus," ANTIVIRAL RES 27:179-186 (1995)
	McKimm-Breschkin et al., "Generation and Characterization of Variants of NWS/G70C Influenza Virus after In Vitro Passage in 4-Amino-Neu5Ac2en and 4-Guanidino-Neu5Ac2en," ANTIMICRO AG & CHEMO 40(1):40-46 (Jan 1996)
	Nishimura et al., "Design of Potential Neuraminidase Inhibitors By Dehydration, Deoxygenation and Epimerization of Siastatin B," NATURAL PRODUCT LETTERS 1(1):39-44 (1992)
	Nishimura et al., "Synthesis of 3-Episiastatin B Analogues Having Anti-Influenza Virus Activity," J ANTIBIOT 46(12):1883-1889 (Dec. 1993)
	Ogawa et al., "Synthesis of a Carbocyclic Analogue of N-Acetylneuraminic Acid (Pseudo-N-acetylneuraminic Acid)," J CHEM SOC (C) pp. 406-408 (1992)
	Ogawa et al., "Synthesis of carbocyclic analogues of 3-deoxy-D-manno-2-octulosonic acid and N-acetylneuraminic acid," CARB RES 269:53-78 (1995)
	Ryan et al., "Inhibition of Influenza Virus Replication in Mice by GG167 (4-Guanidino-2,4-Dideoxy-2,3-Dehydro-N-Acetylneuraminic Acid) Is Consistent with Extracellular Activity of Viral Neuraminidase (Sialidase)," ANTIMICRO AG & CHEMO 38(10):2270-2275 (Oct 1994)
	Saito et al., "Steps in Maturation of Influenza A Virus Neuraminidase," J VIROL 69(8):5011-5017 (Aug 1995)
	Singh et al., "Structure-Based Inhibitors of Influenza Virus Sialidase. A Benzoic Acid Lead with Novel Interaction," J MED CHEM 38:3217-3225 (1995)
	Smith et al., "Synthesis and influenza virus sialidase inhibitory activity of analogues of 4-guanidino-Neu5Ac2en (GG167) with modified 5-substituents," EUR J MED CHEM 31:143-150 (6/22/95)

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	Sollis et al, "Novel Inhibitors of Influenza Sialidase Related to GG167," BIOORG MED CHEM LETT 6(15):1805-1808, Abstract, Table of Contents (1996)
	Starkey et al., "Synthesis and Influenza Virus Sialidase Inhibitory Activity of the 5-Desacetamido Analogue of 2, 3-Didehydro-2,4-dideoxy-4-guanidiny-N-acetylneuraminic acid," TET LETT 36(2):299-302 (1995)
	Staschke et al., "Molecular Basis for the Resistance of Influenza Viruses to 4-Guanidino-Neu5Ac2en," VIROLOGY 214:642-646 (1995)
	Ulmer et al., "Heterologous Protection Against Influenza by Injection of DNA Encoding a Viral Protein," SCIENCE 259:1745-1749 (3/19/93)
	Wu et al., "Non-Sialate Inhibitor of Influenza A/WSN/33 Neuraminidase," BIOCHEM 34:7154-7160 (1995)
	von Itzstein et al, "Rational design of potent sialidase-based inhibitors of influenza virus replication," NATURE 363:418-423 (1993)
	von Itzstein et al., "A Study of the Active Site of Influenza Virus Sialidase: An Approach to the Rational Design of Novel Anti-influenza Drugs," J MED CHEM 39:388-391 (1996)

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Section 3. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

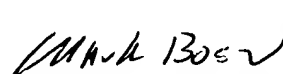
This application relies, under 35 U.S.C. 120, at least on the earlier filing dates of prior applications:

Serial No.	<u>08/653,034</u>	, filed on	<u>May 24, 1996</u>
Serial No.	<u>08/606,624</u>	, filed on	<u>February 26, 1996</u>
Serial No.	<u>08/476,946</u>	, filed on	<u>June 6, 1995</u>
Serial No.	<u>08/580,567</u>	, filed on	<u>December 29, 1995</u>
Serial No.	<u>08/395,245</u>	, filed on	<u>February 27, 1995</u>

Copies of references are not supplied to the extent that they are found in the file history of the prior application(s). Copies of references that were not supplied in the prior application(s), if any, accompany this paper.

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